

ACCOMPANYING DOCUMENTS

1. A marked-up claim set indicating the amendments set forth in this paper (Appendix A);
2. A claim set corresponding to the pending claims after entry of the amendments set forth in this paper (Appendix B);
3. Petition for Extension of Time; and
4. A check.

AMENDMENT

In the Claims:

Please amend claims 1, 2-7, 10, 11, 12, and 18, without prejudice or disclaimer, as follows:

1. (Amended) A biodetector for the detection of a selected substance, said biodetector comprising:

(a) a signal converting element, comprising (i) an extracellular ligand-specific binding domain [moiety] which specifically binds said selected substance, wherein said ligand-specific binding domain comprises an epitope-binding fragment of an antibody, and (ii) an intracellular signal transforming domain, wherein binding of said substance to said epitope-binding fragment of said ligand-specific binding domain [said extracellular ligand-specific moiety selectively recognizes said selected substance, which recognition] activates said intracellular signal transforming domain providing an activated intracellular signal transforming domain;

(b) a transducer, wherein (i) said transducer has an inactive form and an active form which are distinct from each other, and (ii) [wherein] said activated intracellular signal transforming domain converts said inactive form of said transducer into said active form of said transducer;

(c) a [responsive] transcription control element, wherein expression mediated by said [responsive] transcription control element is activated by said active form of said transducer; and

(d) a reporter gene operatively linked to said [responsive] transcription control element, wherein [the activated responsive] expression of said reporter gene mediated by said transcription control element causes expression of [the reporter gene to generate] a reporter gene product [, resulting in] that provides a detectable signal.

2. (Amended) The biodetector of Claim 1, wherein said detectable signal is detected optically.

3. (Amended) The biodetector of Claim 2, wherein said [reporter gene product] detectable signal is detectable by means selected from the group consisting of bioluminescence detection, calorimetric reactions and fluorescence detection.

4. (Amended) The biodetector of Claim 3, wherein said [reporter gene product] detectable signal is detectable by bioluminescence detection.

5. (Amended) The biodetector of Claim [3] 1, wherein said reporter gene [is] encodes a luciferase.

6. (Amended) The biodetector of Claim 1, wherein said signal converting element is a fusion protein where the extracellular ligand-specific [moiety] binding domain and the intracellular signal transforming domain are heterologous to one another.

7. (Amended) The biodetector of Claim 1, wherein said intracellular signal transforming [element] domain is derived from a membrane signal transmitter.

10. (Amended) The biodetector of Claim 9, wherein said [responsive] transcription control element comprises the phoN promoter.

11. (Amended) The biodetector of Claim 9, wherein said [extracellular ligand-specific moiety is an antibody or] epitope-binding fragment [thereof] of an antibody is selected from the group consisting of a single chain variable fragment (ScFv), a Fab fragment, a F(ab')₂ fragment, an epitope-binding fragment of a polyclonal antibody, an epitope-binding fragment of a monoclonal antibody, an epitope-binding fragment of a humanized antibody, an epitope-binding fragment of a chimeric antibody, and an epitope-binding fragment of an anti-idiotypic antibody.

12. (Amended) The biodetector of Claim 11, wherein said [extracellular ligand-specific moiety is] epitope-binding fragment of an antibody comprises a single chain variable fragment (ScFv).

18. (Amended) A library of biodetectors, comprising at least about 1000 biodetectors of claim 13, wherein the extracellular ligand-specific [moiety] binding domain of each of said biodetectors comprises a different antibody fragment.

REMARKS

Introductory Comments

Claims 1-24 are pending. Claims 19-24 have been withdrawn from consideration. Claims 1-18 have been examined and rejected by the Examiner.

The Examiner has objected to claim 1, requesting that the claim be ended in a period.